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ABSTRACT

Despite concern over the co-occurrence of substance use and unplanned pregnancy among adolescents, little information is available about drug use before and during pregnancy in adolescence. The present study examined substance use among a sample of premaritally pregnant adolescents (n=241) who were interviewed as part of an ongoing longitudinal study of patterns of drug use among pregnant and parenting school-aged adolescents. Urine samples were obtained from a randomly selected 50% subsample and laboratory analyzed to verify self-reported substance use (2.5% had discrepant data). Respondents were on average 16 years old; 51% were white and 32% were African American. Findings indicated that, although the majority of respondents had a history of substance use, substance use declined substantially during pregnancy. Multiple regression analysis indicated that boyfriend's substance use and best friend's substance use during the previous month, the respondent's perceived harm of substance use during pregnancy, and being a school dropout were related to the respondent's substance use during the previous month, while pregnant. The findings have implications for substance use prevention and intervention programs for pregnant and parenting adolescents. (Author)

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Substance Use During Pregnancy in Adolescence

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Presented at the biennial meetings of the Society for Research on Adolescence, March 22-25, 1990, Atlanta, GA.

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Despite concern over the co-occurrence of substance use and unplanned pregnancy among adolescents, little information is available about drug use before and during pregnancy in adolescence. The present study examines substance use among a sample of premaritally pregnant adolescents (N=241), who were interviewed as part of an on-going longitudinal study of patterns of drug use among pregnant and parenting school-aged adolescents. Urine samples were obtained from a randomly selected 50% subsample and laboratory analyzed to verify self-reported substance use (2.5% had discrepant data). Respondents were on average 16 years old; 51% were white and 32% were African American. Findings indicate that, although the majority of respondents had a history of substance use, substance use declined substantially during pregnancy. Multiple regression analysis indicated that boyfriend's substance use and best friend's substance use during the previous month, the respondent's perceived harm of substance use during pregnancy, and being a school drop-out were related to the respondent's substance use during the previous month, while pregnant. The findings have implications for substance use prevention and intervention programs for pregnant and parenting adolescents.

Background

Substance use, sexual activity, and premarital pregnancy are primary problems among adolescents in the United States. However, despite concern over the co-occurrence of substance use and unplanned pregnancy, and the recognized importance to infant health of abstaining from drug use during pregnancy, surprisingly little information is available about drug use before and during pregnancy in adolescence.

Research has established a positive relationship between drug use and sexual activity for both males and females in adolescence. This research would suggest that pregnant adolescents are likely to have a history of substance use, or may be at high risk of becoming a substance user.

Factors related to adolescent substance use have received much attention in the literature. Social influence, intrapersonal, environmental, and genetic factors have all been identified as important contributors to adolescent substance use.

Few research studies have examined substance use during pregnancy in adolescence. Thus, we do not know if substance use is affected by pregnancy in adolescence. Nor do we know what factors contribute to substance use during pregnancy in adolescence.

Research Questions

The present analyses were conducted to answer the following research questions:

1. Do pregnant adolescents have a history of substance use, and how does this compare with a national sample of adolescents?
2. To what extent do pregnant adolescents who have used substances prior to pregnancy decrease or discontinue their use during pregnancy?
3. How do social influence, intrapersonal, and environmental factors contribute to substance use during pregnancy?

The Study

The data presented here represent the first wave of data obtained in an on-going longitudinal study of the patterns of drug use among pregnant and parenting school-age adolescents. The research is funded by a grant from the National Institute on Drug Abuse. The study involves:

-- Interviews with respondents once during pregnancy, and at 1, 6, 12, and 18 months after the birth of the baby.

-- Urine samples collected and analyzed from a randomly selected subsample to verify self-reported substance use

-- Growth and development data collected from the babies by a registered nurse.

The Sample

Unmarried pregnant adolescents, age 17 and younger, living in a large metropolitan area in the Northwest were recruited from urban prenatal clinics, school programs, and social service agencies. Because recruitment procedures included advertising, a conventional overall response rate could not be calculated. In the only agency--a large county hospital prenatal clinic--where recruitment procedures allowed collection of complete approach and consent data, 75% of eligible informed adolescents consented to study participation. Respondents were paid $15 for the first interview, and the amount of payment increased by $5 with each successive interview.

The sample consists of 241 pregnant young women. The majority (93%) planned to parent their baby, 4% had adoption plans, and 3% were uncertain of their plans for the baby. 71% were experiencing their first pregnancy. Table 1 displays additional descriptive information about the sample. 54 respondents (22.4%) had used a substance (alcohol, marijuana, cocaine, or other drug) during the prior month while pregnant, while 187 respondents (77.6%) had not used any substance during the prior month while pregnant. These two groups are compared on some background variables in the second part of Table 1.

Measures

--Respondent's substance use

Drug use items were patterned after those used in the Monitoring the Future study (Johnston, O'Malley, & Bachman, 1988). Respondents were asked about their lifetime use of substances, use of substances one year ago, and use of substances during the prior month. The respondent was considered to be a current user if she reported using any substance during the prior month, or if her urine tested positive in the laboratory analysis (of the 119 respondents for whom laboratory verification of self-reported drug use was available, only 3 cases (2.5%) had discrepant data).

--Social influence factors

The current substance use of boyfriend, best friend, mother, and siblings was coded so that -1=not a substance user (negative influence to use drugs), 0=no person (no positive or negative influence), and 1=substance user (positive influence to use drugs).

--Intrapersonal factors

Depression was measured by the SCL-90 subscale (mean of 13 items; 0=low depression, 4=high depression).

Feelings of stress during pregnancy was adapted from Pearlin (1977). Feelings associated with the pregnancy (excited, alone, tense, etc.) were rated (mean of 12 items; 1=low stress, 4=high stress).

Perceived harm of using substances during pregnancy was the mean of a scale measuring the harm associated with 5 substances (alcohol, marijuana, cocaine, amphetamines & barbiturates, and narcotics) (0=low harm, 4=high harm).

--Environmental factors

Life events was measured by the number of negative life events experienced in the prior year (list includes 17 events, adapted from Coddington, 1972).

Mobility was the number of homes lived in during the prior year.

School status was indicated by 0=in school, 1=drop out.

Results

--Table 2 compares pregnant respondents' reported lifetime drug use with national data from the Monitoring the Future Study. The pregnant sample reports comparable or higher lifetime use rates for all substances.

--Table 3 and Figure 1 summarize changes in drug use with the occurrence of pregnancy. Comparisons of substance use rates before pregnancy with reported (and verified) use rates during pregnancy reveal that rates of use for all measured substances dropped significantly during pregnancy.

--Table 4 shows the bivariate relationships of the background, social influence, intrapersonal, and environmental variables with the respondent's substance use during pregnancy, and Table 5 shows the multivariate relationships. Controlling for all other factors, best friend's influence, boyfriend's influence, perceived harm of using substances during pregnancy, and being a school drop-out all contributed to substance use during pregnancy. Mother's influence, siblings' influence, and life events were significant at the bivariate level, but not when the other factors were controlled.

Conclusions

1. The majority of pregnant adolescents in our sample had a history of substance use. They had comparable or higher lifetime use rates than a national sample of female high school seniors. Particularly high rates were noted for marijuana, cocaine, and hallucinogens.

2. Despite the high rates of substance use in the past, there was a significant drop in use of all measured substances during pregnancy.

3. Best friends and boyfriends influenced the pregnant adolescent's substance use. Although substance use has previously been linked to depression and feelings of stress, we did not find that among the pregnant sample. However, the perceived harm of using substances during pregnancy was a very important factor in the pregnant adolescent's substance use. In addition, having dropped out of school was related to use.

The findings indicate that, although pregnant adolescents have a high rate of prepregnancy substance use, a significant drop in use occurs during pregnancy. One opportunity for intervention may lie in capitalizing on and extending the voluntary drop in drug use that may occur during pregnancy. Since pregnant and parenting adolescents are frequently not in conventional school classrooms, prevention programmers will need to look beyond conventional

school-based programs to influence this group of drug-using adolescents. For those adolescents who continue to use substances during pregnancy, interventions will need to address the substance use of boyfriends and close friends. Although adolescents who use substances during pregnancy do not consider their use as harmful as do those who do not use substances, it is unclear whether users are less knowledgeable about the dangers or are using denial as a coping mechanism to deal with their substance use.

Table 1

Sample Information

	Total Sample (N=241)	Substance Users during Pregnancy (n=54)	Substance Non-users during Pregnancy (n=187)	
Age	M=16.16	M=16.20	M=16.08	(t(239)=0.80,n.s.)[1]
Gestational age (in weeks)	M=28.10	M=27.15	M=28.37	(t(239)=0.96,n.s.)[1]
School status				
In school	n=150 (62%)	n=21 (39%)	n=129 (69%)	$x^2(1,N=241)=14.89$, $p<.001$
Drop out	n=91 (38%)	n=33 (61%)	n=58 (31%)	
# Years in school	M=9.44	M=9.04	M=9.56	(t(73.3)=2.26, $p<.05$)[1,2]
# Previous Pregnancies	M=0.37	M=0.44	M=0.35	(t(239)=0.89,n.s.)[1]
Race				
White	n=123 (51%)	n=29 (54%)	n=94 (50%)	$x^2(2,N=241)=6.27$, $p<.05$
African American	n=77 (32%)	n=11 (20%)	n=66 (35%)	
Other	n=41 (17%)	n=14 (26%)	n=27 (15%)	

[1]independent samples t-test
[2]based on separate variance estimate

Table 2

Lifetime Prevalence of Substance Use (% ever used): Pregnant Sample vs. National Sample

	Pregnant Sample	High School Seniors[a] Class of 1987 Females
Alcohol	93.8	92.2
Marijuana	78.0	48.0
Cocaine	30.3	13.6
Inhalants	17.0	14.2
Stimulants	29.5	22.9
Sedatives	7.1[b]	8.0
Barbiturates	--	6.7
Tranquilizers	7.5	11.0
Hallucinogens	32.0[c]	8.9
LSD	--	6.8
PCP	--	2.3

[a] From Johnston, L.O., O'Malley, P.M., & Bachman, J.G. (1988). Illicit Drug Use, Smoking, and Drinking by America's High School Students, College Students, and Young Adults (p. 36). Washington, D.C.: U.S. Government Printing Office.

[b] Combines sedatives and barbiturates

[c] Combines hallucinogens, LSD, PCP, and other psychedelics

Table 3

Drug Use Before and During Pregnancy

	Pre-pregnancy		Pregnancy		Difference		n	t
	M	SD	M	SD	M	SD		
Alcohol	3.63	1.25	1.35	0.72	2.28	1.22	162	23.76*
Marijuana	3.79	1.28	1.60	1.18	2.19	1.32	124	18.46*
Cocaine	3.64	1.39	1.15	0.43	2.49	1.41	39	11.00*
Other drugs	3.05	1.32	1.05	0.22	2.00	1.30	39	9.62*

- Paired t-test of difference between means.
- Each analysis includes only those respondents who reported using the substance the previous year.
- Drug use measures are monthly frequencies ranging from 1 = no use to 6 = daily use.

* $p < .001$

Table 4

Bivariate Correlations of the Background, Social Influence, Intrapersonal, and Environmental Variables with Substance Use During Pregnancy (N=241)

	Respondent's current substance use (0=no use, 1=use)
Background Variables	
Age	.05
Race	
White (1) vs. nonwhite (0)	.03
Black (1) vs. nonblack (0)	-.13*
Respondent's substance use 1 year ago	.31***
Social Influence Factors	
Best friend's use	.31***
Boyfriend's use	.25***
Siblings' use	.14*
Mother's use	.12*
Intrapersonal Factors	
Depression	.03
Feelings of stress of pregnancy	.02
Perceived harm of using substances while pregnant	-.40***
Environmental Factors	
Life events	.13*
Mobility	-.01
School status	.26***

*p<.05
**p<.01
***p<.001

Table 5

Multiple Regression of Social Influence, Intrapersonal, and Environmental Factors on Substance Use During Pregnancy[a,b]

	B[c]	SE	t
Social Influence Factors			
Best friend's use	.16	.03	2.65**
Boyfriend's use	.15	.03	2.55**
Siblings' use	.04	.03	0.73
Mother's use	.06	.02	1.04
Intrapersonal Factors			
Depression	.03	.05	0.40
Stress of pregnancy	-.08	.06	-1.04
Harm of use while pregnant	-.30	.10	-5.25***
Environmental Factors			
Life events	.08	.01	1.30
Mobility	-.05	.00	-0.92
School status	.14	.05	2.42*

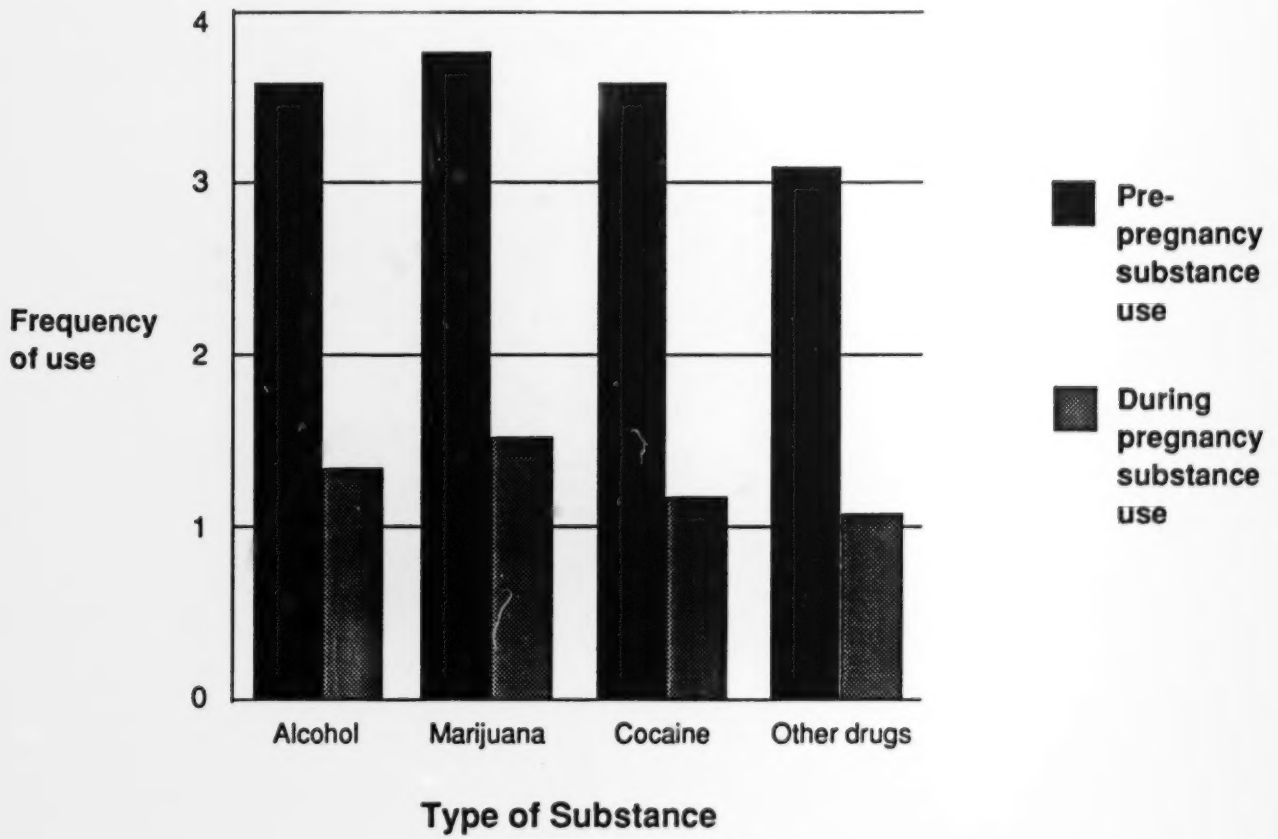
$R^2 = .33$, $F(14,226) = 7.90$***

[a] Controls include age, race, and respondent's substance use a year ago
[b] A logistic regression analysis produced the same pattern of results
[c] Standardized regression coefficients

*p<.05
**p<.01
***p<.001

Figure 1

Pre-Pregnancy and During Pregnancy Substance Use



Author Notes

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